This listing of claims replaces all prior versions and listings of claims in the application.

Listing of Claims

1-41 (canceled).

42. (previously presented) A high performance exhaust system for removing combustion gases from an internal combustion engine comprising:

a shell;

an expansion chamber tube coaxially attached to said shell;

a sleeve in said shell;

sound suppression materials in said sleeve;

said expansion chamber tube being perforated with apertures to about 40-80% porosity;

an inlet tube subassembly fastened to said shell in communication with said expansion chamber tube;

an outlet in said chamber remote from said inlet tube for permitting combustion gases to exit from said system;

a rotatable propeller type blade assembly arranged in said inlet tube, said rotatable propeller being seated in, but not blocking said chamber and capable of rotation when said combustion gases pass from said inlet tube into said expansion chamber, rotation of said propeller assembly spins inducing passage of exhaust gases through said expansion chamber to exit through said outlet.

43. (previously presented) The exhaust system according to **Claim 42**, wherein said rotatable propeller type blade is mounted on a Teflon-filled bronze bearing that is rotatably mounted on a shoulder screw.

44. (previously presented) The exhaust system according to **Claim 42**, wherein said rotatable propeller type blade is mounted on a shoulder screw that is rotatably mounted in a Teflon-filled bronze bearing.

45. (previously presented) The exhaust system according to **Claim 42**, wherein said expansion tube has at least about 85% greater flow cross-sectional area than the inlet tube.

46. (currently amended) The exhaust system according to **Claim 42**, wherein said expansion tube has ~~at~~ between about 75% to about 90% greater flow cross-sectional area than the inlet tube.

47. (previously presented) The exhaust system according to **Claim 42**, wherein said rotatable propeller type blade assembly is comprised of multiple blades.

48. (previously presented) The exhaust system according to **Claim 42**, wherein said rotatable propeller type blade assembly is comprised of at least two blades.

49. (previously presented) The exhaust system according to **Claim 42**, wherein said blades of said rotatable propeller type blade assembly are arranged substantially at about a 30 degree spiral twist relative to the path of said exhaust combustion gases.

50. (previously presented) The exhaust system according to **Claim 42**, wherein said blades of said rotatable propeller type blade assembly are arranged substantially at about a 20-60 degree spiral twist relative to the path of said exhaust combustion gases.

51. (currently amended) The exhaust system according to **Claim 42**, wherein said sound suppression materials are selected from the group consisting of fiberglass, glass wool, copper wool, copper strands, steel wool and a combination thereof[;].

52. (previously presented) The exhaust system according to **Claim 42**, wherein said exhaust chamber system is joined directly to an internal combustion engine.

53. (previously presented) The high performance propulsion exhaust chamber system according to **Claim 42**, wherein said exhaust chamber system is joined directly to an internal combustion engine.

54. (previously presented) A device for increasing the efficiency of an internal combustion engine having an exhaust for gases wherein back pressure of exhaust gases exert on said engine is reduced, said device comprising:

an inlet tube for exhaust gases in flow communication with said engine exhaust,

an expansion chamber for receiving exhaust gases in flow communication with said inlet tube,

an outlet tube for exiting gases from said expansion chamber, and

a rotatable propeller type blade assembly arranged between said inlet tube and said expansion chamber tube,

said rotatable propeller assembly being adapted to swirl said exhaust gases into expansion chamber without blocking entry into said expansion chamber.

55. (previously presented) The device recited in **Claim 54**, wherein said gases freely exit said outlet tube without back pressure on said engine.

56. (currently amended) The device recited in **Claim 54**, wherein said rotatable blades are set between 20-60 degrees relative to the path of said exhaust gases.

57. (previously presented) The device recited in **Claim 54**, wherein said rotatable propeller type blade assembly is mounted on a Teflon-filled bronze bearing that is rotatably mounted on a shoulder screw.

58. (currently amended) The muffler according to **Claim 54**, wherein said propeller type blade assembly when rotating creates a vortex inducing passage of exhaust gases through said expansion chamber to exit through said outlet.

59. (currently amended) The device recited in **Claim 54**, wherein said expansion tube has ~~at~~ between about 75% to about 90% greater flow cross-sectional area than said inlet tube.

60. (currently amended) A method of improving the performance of an internal combustion engine exhaust system comprising:

attaching a rotatable propeller proximately to an inlet of an expansion chamber within said exhaust system without materially blocking the flow of exhaust gases from said engine;

rotating said propeller when exhaust gases pass from said inlet into said expansion chamber, and

swirling exhaust gases responsive to rotating said propeller through said exhaust system to exit from an outlet in said expansion chamber without materially inducing back pressure on said engine.

61. (previously presented) The method according to **Claim 60**, wherein the rotation of said rotatable propeller forces said exhaust gases into a tightly spun vortex as said exhaust gases expand in said expansion chamber inducing a vacuum to draw exhaust gases from said internal combustion engine.